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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,443	03/09/2001	Rajendra D. Pendse	CPAC 1001-IUS	7241

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HAYNES BEFFEL & WOLFELD LLP
P O BOX 366
HALF MOON BAY, CA 94019

EXAMINER

YEVSIKOV, VICTOR V

ART UNIT PAPER NUMBER

2825

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/802,443

Applicant(s)

PENDSE ET AL.

Examiner

Victor V Yevsikov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 7,8,12 and 16-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-6, 9-11 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Keizer et al. (US 4,010,885).

With respect to claims 1, 2, 4-6 and 9-10 Keizer et al. discloses a method for connecting a die to a leadframe, comprising forming metal bumps on the die, contacting the bumps with bonding fingers on a leadframe, heating the bumps without melting, and pressing the bumps against the bonding fingers, wherein

the step of forming the metal bumps (gold) comprises stud bumping;

the step of heating the bumps comprises heating the die;

supporting the bonding fingers on a substrate, and supporting the die by a press;

the step of pressing the bumps against the bonding fingers comprises applying a force to move the die and the substrate toward one another;

the fill material comprises an adhesive resin and

comprising the steps, prior to contacting the bumps with the bonding fingers of the leadframe, of supporting the leadframe on a substrate, and dispensing a measured quantity of a fill material onto the substrate within the leadframe binding fingers.

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With respect to claims 11 and 13-15 Keizer discloses a method for forming a plurality of chip-in-leadframe packages, comprising providing a plurality of leadframes each comprising a set of bonding fingers, providing a plurality of dies each having a set of metal bumps formed thereon, positioning the leadframes onto a support, placing the dies onto the leadframes such that each set of bumps contacts a set of bonding fingers, heating the bumps without melting and pressing the dies against the leadframes to compress the bumps onto the bonding fingers, and wherein

prior to contacting the bumps with the binding fingers of the leadframe, of supporting the leadframe on a substrate, and dispensing a measured quantity of a fill material onto the substrate within each set of leadframe binding fingers; and comprising the steps of singulating the chip-in-leadframe packages.

Reference: figs. 11-15; cols.2-4, lines 44-31.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Keizer in view of Lin et al. (US 6,258,622 B1).

Keizer teaches the features detailed previously but lacks a discussion on a method comprising forming metal bumps on the die comprise electroplating.

However, Lin teaches a method the forming metal bumps on the die comprise electroplating (col.2, lines 19-29).

Therefore, it would have been obvious to one of ordinary skill in the art to use the electroplating for forming metal bumps as taught by Keizer/Lin for provides process as is routine in the art.

Allowable Subject Matter

Claims 7, 8, 12 and 16-20 objected to as being dependent upon a rejected base claims 1 and 11, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-6, 9-11 and 13-15 have been considered but they are not persuasive in view of combinations detailed above.

The combinations detail each and every element of applicant's claims or further show the invention of applicant's is an obvious development from the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Yevsikov whose telephone number is 703 305-0758. The examiner can normally be reached on 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 703 305-1323. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9318 for regular communications and 703 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1782.

Victor Yevsikov

July 31, 2003

V. Yevsikov

Matthew Smith

MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800